



Muon Campus AIP

Change Request Form

CR#: Cryo004

1) DATE: 4/16/14

2) WBS: Cryo1

3) Originator: Ken Domann

KAD 4/14/14

4) WBS Description of Primary Affected Tasks: Cryo1.04.04.07.03 Refrigeration Syst Transfer Lines and Cryo1.04.06 Cryo Interconnect Piping.

5) Technical Description & Primary Motivation for Change: This change requests approval for two items.

(1) Add M&S to the Transfer Line WBS to allow for additional equipment to improve the effectiveness of the transfer line installation. This increase equals \$31,450 in fully burdened M&S.

(2) Decrease M&S for the installation of the MC-1 Exp Hall Headers by the piping contractor. The actual award was less than the budgeted amount for this contract. This decrease equals \$80,390 in fully burdened M&S.

This change results in \$48,940 being returned to contingency.

6) Assessment of Cost Impact (Use attachments if needed): See above analysis of cost impact. See Attachments for changes.

7) Assessment of Schedule Impact (Use attachments if needed): N/A

8) Secondary Impact & Other Comments: N/A

9) Approvals:

AIP Project Manager:

Ken Domann

Date: 4/16/14

AIP Project Coordinator:

Mary E. [Signature]

Date: 4/16/14

AD Div Director:

Date: _____

Directorate:

Date: _____

UID	WBS	CTC	Name	Original Base M&S	New Base M&S	Delta
1	Cryo1		Muon Campus Cryogenics - AIP	\$2,603,940	\$2,564,267	-\$39,673
833	Cryo1.04		Cryogenic plant sub systems	\$1,820,700	\$1,781,027	-\$39,673
835	Cryo1.04.04	A1301.04.04	Cryo Refrigerator System	\$733,765	\$759,165	\$25,400
2488	Cryo1.04.04.07		Refrig Syst Distribution System	\$320,000	\$345,500	\$25,500
2857	Cryo1.04.04.07.03		Refrigeration Syst Transfer Lines	\$25,000	\$50,500	\$25,500
2860	Cryo1.04.04.07.03.03	A1301.04.04	Refrigeration Syst Transfer Lines Installation	\$10,000	\$35,500	\$25,500
2686	Cryo1.04.06	A1301.04.06	Cryo Interconnect Piping	\$427,537	\$362,364	-\$65,173
2912	Cryo1.04.06.18	A1301.04.06	Interconnect Piping Contractor Install MC-1 Exp Hall Headers	\$101,573	\$36,400	-\$65,173

Cryo Cap Post CR004

4/16/2014

Control Account Work Package	Baseline		Actual		Forecast		CAM	Cumulative
	Start	Finish	Start	Finish	Start	Finish	WBS	
Cost Set	FY12	FY13	FY14	FY15	FY16	FY17		
A1301.02.01.01 Cryo AIP General Project OS - FY13	8/1/13	9/20/13	6/17/13	9/20/13	6/17/13	9/20/13		
A1301.02.01.02 Cryo AIP General Project OS - FY14	Scheduled	0.00	51.35	0.00	0.00	0.00	0.00	51.35
A1301.02.01.03 Cryo AIP General Project OS - FY15	Scheduled	9/23/13	9/23/13	9/23/13	9/23/13	9/22/14		
A1301.02.01.04 Cryo AIP General Project OS - FY16	Scheduled	0.00	3.59	128.89	0.00	0.00	0.00	132.49
A1301.02.01.05 Cryo AIP General Project OS - FY17	Scheduled	9/23/15	0.00	3.20	9/23/14	9/22/15		
A1301.02.01.06 Cryo AIP General Project OS - FY17	Scheduled	9/23/15	0.00	0.00	9/23/15	9/22/16		
A1301.03 Cryo Basic Engineering	Scheduled	9/23/16	0.00	0.00	3.28	137.85	0.00	141.13
A1301.04.01 Cryo LN2 system	Scheduled	6/17/13	0.00	0.00	0.00	3.98	123.36	127.34
A1301.04.02 Cryo Gas management system	Scheduled	8/30/13	0.00	234.74	6/17/13	5/26/17		
A1301.04.03 Cryo ODH system	Scheduled	6/17/13	4.52	442.82	8/30/13	9/2/14	53.52	479.53
A1301.04.04 Cryo Refrigerator System	Scheduled	5/5/14	8/26/14	178.03	0.00	7/14/14	0.00	447.34
A1301.04.05 Cryo Compressor System	Scheduled	6/17/13	0.00	49.62	5/5/14	8/26/14	0.00	235.87
A1301.04.06 Cryo Interconnect Piping	Scheduled	7/26/13	0.00	366.94	6/17/13	9/23/14	0.00	426.39
A1301.04.07 Cryo Interconnect Electrical & Controls	Scheduled	6/17/13	0.00	501.98	7/26/13	7/30/14	0.00	727.57
A1301.05.01 Muze Interface Connection	Scheduled	5/22/14	0.00	119.53	6/17/13	5/23/14	0.00	166.15
A1301.05.02 g-2 Interface Connection	Scheduled	8/19/13	0.00	69.54	5/22/14	3/27/17	0.00	166.15
A1301.06 Cryo Safety Documents	Scheduled	10/1/13	0.00	0.00	214.73	1,035.76	341.59	1,661.62
A1301.07 g-2 Cryo Checkout	Scheduled	10/31/14	0.00	154.53	10/1/13	9/2/14	0.00	27.20
A1301.08 Cryo g-2 Acceptance Tests	Scheduled	9/29/14	0.00	0.00	71.72	0.00	75.95	147.67
A1301.09 Cryo Muze Acceptance Tests	Scheduled	3/28/17	0.00	11.72	9/29/14	10/24/14	0.00	119.75
Grand Total	Scheduled	0.00	658.34	3,390.10	714.61	1,577.32	698.75	7,039.12

Cryo Cap Pre CR004

4/16/2014

Control Account Work Package	Baseline			Actual			Forecast		CAM	Cumulative
	Start	Finish		Start	Finish		Start	Finish	WBS	
Cost Set	FY12	FY13		FY14	FY15		FY16	FY17		
A1301.02.01.01 Cryo AIP General Project OS - FY13	8/1/13	9/20/13		6/17/13	9/20/13		6/17/13	9/20/13		
	Scheduled	0.00		51.35	0.00		0.00	0.00		0.00
A1301.02.01.02 Cryo AIP General Project OS - FY14	9/23/13	9/22/14		9/23/13			9/23/13	9/22/14		51.35
	Scheduled	0.00		3.59	128.89		0.00	0.00		132.49
A1301.02.01.03 Cryo AIP General Project OS - FY15	9/23/14	9/22/15					9/23/14	9/22/15		
	Scheduled	0.00		0.00	3.20		133.89	0.00		137.09
A1301.02.01.04 Cryo AIP General Project OS - FY16	9/23/15	9/22/16					9/23/15	9/22/16		
	Scheduled	0.00		0.00	0.00		3.28	137.85		141.13
A1301.02.01.05 Cryo AIP General Project OS - FY17	9/23/16	6/22/17					9/23/16	6/22/17		
	Scheduled	0.00		0.00	0.00		0.00	3.98		127.34
A1301.03 Cryo Basic Engineering	6/17/13	5/26/17		6/17/13			6/17/13	5/26/17		
	Scheduled	0.00		33.09	234.74		77.84	80.34		479.53
A1301.04.01 Cryo LN2 system	8/30/13	9/2/14		8/30/13			8/30/13	9/2/14		
	Scheduled	0.00		4.52	442.82		0.00	0.00		447.34
A1301.04.02 Cryo Gas management system	6/17/13	7/14/14		6/17/13			6/17/13	7/14/14		
	Scheduled	0.00		57.84	178.03		0.00	0.00		235.87
A1301.04.03 Cryo ODH system	5/5/14	8/26/14					5/5/14	8/26/14		
	Scheduled	0.00		0.00	49.62		0.00	0.00		49.62
A1301.04.04 Cryo Refrigerator System	6/17/13	2/1/16		6/17/13			6/17/13	2/1/16		
	Scheduled	0.00		149.08	1,097.11		105.12	319.40		1,670.70
A1301.04.05 Cryo Compressor System	6/17/13	9/23/14		6/17/13			6/17/13	9/23/14		
	Scheduled	0.00		59.45	366.94		0.00	0.00		426.39
A1301.04.06 Cryo Interconnect Piping	7/26/13	7/30/14		7/26/13			7/26/13	7/30/14		
	Scheduled	0.00		225.59	582.36		0.00	0.00		807.96
A1301.04.07 Cryo Interconnect Electrical & Controls	6/17/13	5/23/14		6/17/13			6/17/13	5/23/14		
	Scheduled	0.00		46.63	119.53		0.00	0.00		166.15
A1301.05.01 Muze Interface Connection	5/22/14	3/27/17					5/22/14	3/27/17		
	Scheduled	0.00		0.00	69.54		214.73	1,035.76		1,661.62
A1301.05.02 g-2 Interface Connection	8/19/13	9/20/13		8/19/13			8/19/13	9/20/13		
	Scheduled	0.00		27.20	0.00		0.00	0.00		27.20
A1301.06 Cryo Safety Documents	10/1/13	9/2/14		10/1/13			10/1/13	9/2/14		
	Scheduled	0.00		0.00	154.53		0.00	0.00		154.53
A1301.07 g-2 Cryo Checkout	10/31/14	5/22/17					10/31/14	5/22/17		
	Scheduled	0.00		0.00	0.00		71.72	0.00		147.67
A1301.08 Cryo g-2 Acceptance Tests	9/29/14	10/24/14					9/29/14	10/24/14		
	Scheduled	0.00		0.00	11.72		108.03	0.00		119.75
A1301.09 Cryo Muze Acceptance Tests	3/28/17	4/24/17					3/28/17	4/24/17		
	Scheduled	0.00		0.00	0.00		0.00	0.00		104.33
Grand Total	Scheduled	0.00		658.34	3,439.04		714.61	1,577.32		7,088.05